CHARGE NUMBER: 1802

PROGRAM TITLE: Stem Processing

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PERIOD COVERED: November 3 - December 6, 1973

DATE OF REPORT: December 11, 1973

## I. EXPANDED STEM

### A. Stem Buildup - 8" Tower

The funnel feed section has been installed. The following tests have been run:

ES - Two runs have been completed. One employed a deflector in the lower elbow; the second had the deflector and the thermocouple prior to the elbow removed. In both cases, no buildup occurred in the feed section. The buildup did occur in the elbow in both runs, although removing the deflector shifted the buildup to a higher point.

ET - After two hours of running, the feed bridged in the funnel. Another funnel with a 1" larger exit (3 7/8" vs. 2 7/8") will be fabricated and the test repeated.

It should be noted that based on observations of the FTR, Louisville and Westab towers, the buildup occurring in the elbow of the 8" tower is unique. The material found in the elbows of the production towers appears to be primarily large segments which have broken loose from the buildup in the feed section. The 8" tower has approximately 1/10 the cross-sectional area of these towers (24" diameters) and has only approximately two feet from the inlet feed point to the first elbow; therefore, the material is still high in moisture and has a tendency to stick to the lower elbow upon impact.

### B. Expanded Burley Stem

A program for determining optimum conditions for expanding burley stems is being carried out using the pilot plant RKS line and the 8" tower. The parameters being evaluated are: rolled

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thickness, % moisture prior to the rollers, and cuts/inch. The products are being evaluated on the basis of degree of expansion and sieve analysis.

The tests completed to date have shown that a severe dust problem exists in the products expanded at the lowest rolled thickness (25 mm) and moisture levels (25-30%).

## II. $NH_3/CO_2$ ET STUDIES

### A. Expanded Tobacco - Pilot Plant

The air leg separator was used to determine the degree of ball formation using bottom addition of both $NH_3$ and $CO_2$ and forward rotation only of the agitator. The % balls found was 0.082--the worst value obtained under any conditions to date.

A report is being written recommending use of the automatic reversing cycle on the agitator and the bottom addition of ammonia only as the best methods of reducing ball formation in Manufacturing (Westab).

### B. Working Model Plexiglass Impregnator

A program using lower sieve fractions of bright tobacco to facilitate loading and unloading has been set up.

Water leaks around the discharge ports have prevented carrying out successful experiments. Modifications have been made to the caps for these ports and the tests will be repeated.

## III. REFERENCES

Notebook 6365.

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